

DETAILED ACTION

Response to Amendment

Receipt of the Amendment, filed on December 22, 2003, is acknowledged.

Cancellation of claims 1-5 and 9-13 has been entered.

Claims 6-8 and 14-16 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lepselter et al. (US 3,713,922) in view of Magdo et al. (US 4,256,532).

Regarding claim 6, Lepselter discloses a method for manufacturing a deposition mask (Fig. 2D), wherein said deposition mask comprises a semiconductor substrate (21) including an opening forming region (23) having a reduced thickness provided with at least one opening (25), and a thick portion (24) formed in at least one portion of a mask outer periphery region of said semiconductor substrate, said method comprising the steps of: forming a first coating (22) covering a region in which said thick portion of said semiconductor substrate is to be formed (Fig. 2A); using said first coating (22) as an etching mask to etch said semiconductor substrate so as to reduce thickness of said semiconductor substrate and thereby form said opening forming region (Fig. 2B); forming a second coating (26) in areas other than a predetermined position (25) within said opening forming region (Fig. 2C); and using said second coating (26) as

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an etching mask to etch said semiconductor substrate so as to form said at least one opening in said predetermined position (Fig. 2D).

In regards to the recitations “for placing between a depositing material and a medium on which deposition is performed” and “for allowing said depositing material to be selectively attached to a desired position on said medium” are considered intended use limitation relating the manufactured deposition mask apparatus to the material or article upon which the manufactured deposition mask apparatus would work upon during its operation, it has been held that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F. 2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Accordingly, the recitations are not considered germane to the issue of patentability of a method of manufacturing the claimed apparatus.

Alternatively, Magdo acknowledges the use of a semiconducting deposition mask (Figs. 3-5) in diverse manufacturing processes such as ion beam implantation, sputtering etching, coating process, i.e., processes that involve patterning, the deposition mask comprising a semiconductor substrate (51) including an opening forming region having a reduced thickness provided with at least one opening (56), and a thick portion (52) formed in at least one portion of a mask outer periphery region of said semiconductor substrate. One skilled in the art would reasonable contemplate the use of the semiconducting deposition mask disclosed by Lepselter for the deposition of material on a medium as evidenced by Magdo’s teachings during a patterning process as an obvious matter of design choice. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art the use of the

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manufactured deposition mask disclosed by Lepselter for the deposition of a material on a medium as evidenced by Magdo during a patterning process as an obvious matter of design choice.

Regarding claim 7, Lepselter discloses a method wherein said semiconductor substrate is composed of silicon.

Claims 6-8 and 14-16 rejected under 35 U.S.C. 102(b) as being anticipated by Magdo et al. (US 4,256,532).

Regarding claim 6, Magdo discloses a method for manufacturing a deposition mask (Figs. 2A-2E), wherein said deposition mask for placing between a depositing material and a medium on which deposition is performed (Fig. 5) comprises a semiconductor substrate (20) including an opening forming region (28) having a reduced thickness provided with at least one opening (31) for allowing said depositing material to be selectively attached to a desired position on said medium (Fig. 5), and a thick portion (20') formed in at least one portion of a mask outer periphery region of said semiconductor substrate, said method comprising the steps of: forming a first coating (21) covering a region in which said thick portion of said semiconductor substrate is to be formed (Fig. 2B); using said first coating (21) as an etching mask to etch said semiconductor substrate so as to reduce thickness of said semiconductor substrate and thereby form said opening forming region (28, Fig. 2C); forming a second coating (24) in areas other than a predetermined position within said opening forming region (Fig. 2D); and using said second coating (24) as an etching mask to etch said semiconductor substrate so as to form said at least one opening in said predetermined position (Fig. 2E).

In regards to the recitations "for placing between a depositing material and a medium on which deposition is performed" and "for allowing said depositing material to be selectively

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attached to a desired position on said medium” are considered intended use limitation relating the manufactured deposition mask apparatus to the material or article upon which the manufactured deposition mask apparatus would work upon during its operation, it has been held that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F. 2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Accordingly, the recitations are not considered germane to the issue of patentability of a method of manufacturing the claimed apparatus.

Regarding claim 7, Magdo discloses a method wherein said semiconductor substrate is composed of silicon.

Regarding claim 8, Magdo discloses a method wherein said first coating (21) is formed on a first side of said semiconductor substrate (20); said opening forming region is formed by etching said first side of said semiconductor substrate to reduce thickness of said substrate (Fig. 2C); said second coating (24) is formed on a second side of said semiconductor substrate; and said at least one opening is formed by etching from said second side until penetrating through said semiconductor substrate (Fig. 2E).

Regarding claim 14, Magdo discloses a deposition mask (Fig. 1) to be placed between a material source and a medium which is a deposition target (Fig. 5), comprising: a plurality of opening forming regions (10) having a plurality of openings (14) for allowing a depositing material to be selectively attached to a desired position on said medium (Fig. 5); and a thick portion (11) formed in an area between said plurality of opening forming regions and on an outer

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periphery region of said mask, wherein each of said plurality of opening forming regions has a thickness which is less than that of said thick portion (Fig. 1).

Regarding claims 15-16, it has been held that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F. 2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Accordingly, the recitation “wherein said plurality of opening forming regions correspond to a plurality of display panel regions to be formed on said medium” is considered to pertain to the material (i.e., medium) and article (i.e., display panel) worked upon by the claimed deposition mask apparatus, thus, not considered germane to the issue of patentability of the claimed apparatus. Likewise, the recitation “wherein said area between said plurality of opening forming regions in which said thick portion is formed corresponds to a gap position between pixels of a display panel to be formed on said medium.” relates the claimed apparatus to an intended operation and/or worked upon structure, thus, not considered germane to the issue of patentability of the claimed apparatus.

Response to Arguments

Applicant's arguments with respect to claims 6-8 and 14-16 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

The rejections above rely on the references for all the teachings expressed in the text of the references and/or one of ordinary skill in the art would have reasonably understood or implied from the texts of the references. To emphasize certain aspects of the prior art, only specific portions of the texts have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mariceli Santiago/

Primary Examiner, Art Unit 2879